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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Office Action Summary	Application No.	Applicant(s)
	09/580,327	STEINBACH, RALF D.
	Examiner	Art Unit
	Luke S. Wassum	2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *28 April 2003* .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-43* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-43* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1.   The Applicant's request for reconsideration, filed 28 April 2003, has been received, entered

into the record, and considered.

2.   Claims 1-4, 6-11, 13-21, 23-28 and 30-43 remain pending in the application.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 1-3, 7-9, 13-16, 18-20, 24-26, 30, 32-34, 36-38, 41 and 43 are rejected under 35

U.S.C. 102(e) as being anticipated by **Mukhopadhyay et al.** (U.S. Patent 6,032,158).

5.   Regarding claim 1, **Mukhopadhyay et al.** teaches a system for retrieving data from a

database using a data management system as claimed, comprising:

        a) a change retrieval engine coupled to the database using a data management system and

                operable to:

i) determine that data in the database managed by the data management system has

been changed (see col. 3, line 67 through col. 4, line 2; see also col. 7, lines 32-

53);

ii) receive information from the data management system identifying a particular

business object with which the changed data is associated (see disclosure that

data changes are propagated to one or more target tables of data marts, col. 2,

lines 26-29; see also examples of target tables ITEMS, PRICES and

SALES_REVENUE, col. 10, lines 29-31, said target tables being analogous to

the claimed particular business object);

iii) access a data model specifying, for each of a plurality of business objects including

the particular business object, references to one or more tables managed by the

data management system that include data related to the business object (see

disclosure that the repository, analogous to the claimed data model, contains

mapping information relating to how data is to be mapped and transformed

from target tables of the operational database to target tables of the data marts,

col. 3, lines 47-56; see also col. 4, lines 9-12; see also col. 7, lines 49-57 et seq.);

iv) identify according to the data model the tables specified for the particular business

object to identify data to be retrieved from the database using the data

management system according to the received information (see col. 4, lines 9-12

et seq.);

v) request from the data management system the data to be retrieved included in the

tables identified according to the data model (see col. 7, lines 35-57 et seq.);

vi) receive the data from the data management system (see col. 7, lines 35-57 et seq.);

vii) store the data in the data log (see col. 7, lines 35-57 et seq., the disclosed change

data capture (CDC) database being analogous to the claimed data log); and

viii) communicate a transfer command (see disclosure that it is crucial that data

changes be propagated as quickly as possible, col. 2, lines 10-15; see also

disclosure that after data has been staged in the CDC database, the changes are

propagated to the target data marts via extract, transform and load process, col.

7, lines 65-67; see also col. 8, lines 9-18; see also disclosure that the data marts

are updated incrementally for critical real-time warehousing, col. 4, lines 13-16);

and

b) a change transfer engine coupled to the change retrieval engine and operable to:

i) receive the transfer command (see disclosure that it is crucial that data changes be

propagated as quickly as possible, col. 2, lines 10-15; see also disclosure that

after data has been staged in the CDC database, the changes are propagated to

the target data marts via extract, transform and load process, col. 7, lines 65-67;

see also col. 8, lines 9-18; see also disclosure that the data marts are updated

incrementally for critical real-time warehousing, col. 4, lines 13-16);

ii) obtain the data from the data log (see col. 4, lines 1-7 and 54-58, the CCDB/CDC

database being analogous to the claimed data log);

iii) communicate the data to an external system (see col. 4, lines 13-15, data marts 206-

209 being analogous to the claimed external system).

6.   Regarding claim 18, **Mukhopadhyay et al.** teaches a method for retrieving data from a

database using a data management system as claimed, comprising:

a) determining that data in the database managed by the data management system has been

changed (see col. 3, line 67 through col. 4, line 2; see also col. 7, lines 32-53);

b) receiving information from the data management system identifying a particular business

object with which the changed data is associated (see disclosure that data changes are

propagated to one or more target tables of data marts, col. 2, lines 26-29; see also

examples of target tables ITEMS, PRICES and SALES_REVENUE, col. 10, lines 29-

31, said target tables being analogous to the claimed particular business object);

c) accessing a data model specifying, for each of a plurality of business objects including the

particular business object, references to one or more tables managed by the data

management system that include data related to the business object (see disclosure

that the repository, analogous to the claimed data model, contains mapping

information relating to how data is to be mapped and transformed from target tables

of the operational database to target tables of the data marts, col. 3, lines 47-56; see

also col. 4, lines 9-12; see also col. 7, lines 49-57 et seq.);

d) identifying according to the data model the tables specified for the particular business

object to identify data to be retrieved from the database using the data management

system according to the received information (see col. 4, lines 9-12 et seq.);

e) requesting from the data management system the data to be retrieved including the tables

identified according to the data model (see col. 7, lines 35-57 et seq.); and

f) communicating the data to an external system (see col. 4, lines 13-15, data marts 206-209

being analogous to the claimed external system).

7.   Regarding claim 32, **Mukhopadhyay et al.** teaches a system for retrieving data from a database using a data management system as claimed, comprising:

> a) a database operable to store data (see col. 3, lines 41-47);

> b) a data management system operable to access and change the data in the database (see col. 3, lines 41-47); and

> c) a data access interface system operable to:

>> i) receive information from the data management system identifying a particular business object with which the changed data is associated (see disclosure that data changes are propagated to one or more target tables of data marts, col. 2, lines 26-29; see also examples of target tables ITEMS, PRICES and SALES_REVENUE, col. 10, lines 29-31, said target tables being analogous to the claimed particular business object);

>> ii) access a data model specifying, for each of a plurality of business objects including the particular business object, references to one or more tables managed by the data management system that include data related to the business object (see disclosure that the repository, analogous to the claimed data model, contains mapping information relating to how data is to be mapped and transformed from target tables of the operational database to target tables of the data marts, col. 3, lines 47-56; see also col. 4, lines 9-12; see also col. 7, lines 49-57 et seq.);

>> iii) identify according to the data model the tables specified for the particular business object to identify data to be retrieved from the database using the data management system according to the received information (see col. 4, lines 9-12 et seq.);

iv) request from the data management system the data to be retrieved included in the

tables identified according to the data model (see col. 7, lines 35-57 et seq.); and

v) communicate the data to an external system (see col. 4, lines 13-15, data marts 206-

209 being analogous to the claimed external system).

8.   Regarding claim 33, **Mukhopadhyay et al.** teaches software for retrieving data from a

database using a data management system as claimed, the software being embodied in computer-

readable media and when executed operable to:

a) determine that data in the database managed by the data management system has been

changed (see col. 3, line 67 through col. 4, line 2; see also col. 7, lines 32-53);

b) receive information from the data management system identifying a particular business

object with which the changed data is associated (see disclosure that data changes are

propagated to one or more target tables of data marts, col. 2, lines 26-29; see also

examples of target tables ITEMS, PRICES and SALES_REVENUE, col. 10, lines 29-

31, said target tables being analogous to the claimed particular business object);

c) access a data model specifying, for each of a plurality of business objects including the

particular business object, references to one or more tables managed by the data

management system that include data related to the business object (see disclosure

that the repository, analogous to the claimed data model, contains mapping

information relating to how data is to be mapped and transformed from target tables

of the operational database to target tables of the data marts, col. 3, lines 47-56; see

also col. 4, lines 9-12; see also col. 7, lines 49-57 et seq.);

d) identify according to the data model the tables specified for the particular business object

to identify data to be retrieved from the database using the data management system

according to the received information (see col. 4, lines 9-12 et seq.);

e) request from the data management system the data to be retrieved included in the tables

identified according to the data model (see col. 7, lines 35-57 et seq.);

f) receive the requested data from the data management system (see col. 7, lines 35-57 et

seq.); and

g) communicate the received data to an external system (see col. 4, lines 13-15, data marts

206-209 being analogous to the claimed external system).

9.　　　Regarding claim 43, **Mukhopadhyay et al.** teaches a system for retrieving data from a

database using a data management system as claimed, comprising:

a) means for determining that data in the database managed by the data management system

has been changed (see col. 3, line 67 through col. 4, line 2; see also col. 7, lines 32-53);

b) means for receiving information from the data management system identifying a

particular business object with which the changed data is associated (see disclosure

that data changes are propagated to one or more target tables of data marts, col. 2,

lines 26-29; see also examples of target tables ITEMS, PRICES and

SALES_REVENUE, col. 10, lines 29-31, said target tables being analogous to the

claimed particular business object);

c) means for accessing a data model specifying, for each of a plurality of business objects

including the particular business object, references to one or more tables managed by

the data management system that include data related to the business object (see

disclosure that the repository, analogous to the claimed data model, contains mapping

information relating to how data is to be mapped and transformed from target tables

of the operational database to target tables of the data marts, col. 3, lines 47-56; see

also col. 4, lines 9-12; see also col. 7, lines 49-57 et seq.);

d) means for identifying according to the data model the tables specified for the particular

business object to identify data to be retrieved from the database using the data

management system according to the received information (see col. 4, lines 9-12 et

seq.);

e) means for requesting from the data management system the data to be retrieved included

in the tables identified according to the data model (see col. 7, lines 35-57 et seq.);

f) means for receiving the requested data from the data management system (see col. 7, lines

35-57 et seq.); and

g) means for communicating the received data to an external system (see col. 4, lines 13-15,

data marts 206-209 being analogous to the claimed external system).

10.   Regarding claims 2 and 19, **Mukhopadhyay et al.** additionally teaches a system and method

wherein the data management system comprises an enterprise resource planning (ERP) system, and

the external system comprises an external planning system (see disclosure that the system is used for

various aspects of business, such as inventory control, payroll and billing, col. 3, lines 35-41; see also

disclosure that the data mart, analogous to the claimed external system, contains a subset of

corporate data for a single aspect of business, such as finance, sales, inventory or human resources,

col. 1, lines 45-48. These disclosures illustrate the fact that the system of **Mukhopadhyay et al.**

comprises an enterprise resource planning (ERP) system, and that the external system comprises an external planning system, as claimed.

11.   Regarding claims 3, 20 and 34, **Mukhopadhyay et al.** additionally teaches a system, method and software wherein the change retrieval engine is further operable to monitor the data management system to determine when a change document is created, the change document indicating that data managed by the data management system has been changed (see disclosure that the log transfer manager scans the server log and forwards changes of the operational database to the capture process, col. 7, lines 34-37, the system log records being analogous to the claimed change document).

12.   Regarding claims 7, 24 and 36, **Mukhopadhyay et al.** additionally teaches a system, method and software wherein the business objects are identified in the data model by a name of a main table of data associated with the business object in the data management system (see disclosure that data is mapped from source tables to target tables identified by table names, col. 10, lines 18-51; see also Figure 8).

13.   Regarding claims 8, 25 and 37, **Mukhopadhyay et al.** additionally teaches a system, method and software wherein the change retrieval engine is further operable to receive one or more key values from the data management system, each key value identifying an instance of the particular business object for which data was changed (see disclosure that when data in a source table changes, the changes are staged in the corresponding dynamic image table, col. 7, lines 35-46; see also

disclosure that the dynamic image table is identical to the source table, thus including any key values, coL 5, line 62 through coL 6, line 9).

14.   Regarding claims 9, 26 and 38, **Mukhopadhyay et al.** additionally teaches a system, method and software wherein the change retrieval engine is further operable to request data from the tables that are associated with one or more instances of the particular business object, the instances of the particular business object identified by one or more key values from the data management system (see disclosure that when data in a source table changes, the changes are staged in the corresponding dynamic image table, coL 7, lines 35-46; see also disclosure that the dynamic image table is identical to the source table, thus including any key values, coL 5, line 62 through coL 6, line 9; see also disclosure that when commited data changes have been staged in the dynamic image table, the builder process retrieves any related data from the operational database and stages it in the static image table, coL 7, lines 49-57 et seq.).

15.   Regarding claims 13 and 41, **Mukhopadhyay et al.** additionally teaches a system and software wherein the change retrieval engine is further operable to access the distribution model to determine one or more serialization groups into which the data identified by the data model is to be divided, and store the data received from the data management system in the data log according to the serialization groups (see disclosure that the repository keeps track of mapping information for how data is to be mapped from target tables of the operational databases to target tables of the data marts, said data marts being analogous to the claimed external systems, coL 3, lines 47-52; see also coL 4, lines 2-7; see also disclosure of the use of transaction ids and log sequence numbers in

preserving the transaction order when changes are propagated to the data mart, analogous to the claimed use of serialization groups, col. 5, lines 30-33; see also col. 6, lines 36-42).

16.   Regarding claim 30, **Mukhopadhyay et al.** additionally teaches a method wherein the change retrieval engine is further operable to access the distribution model to determine one or more serialization groups into which the data identified by the data model is to be divided, the distribution model is accessed to determine destination information for one or more external systems to which the serialization groups is to be communicated, and store the data received from the data management system in the data log according to the serialization groups (see disclosure that the repository keeps track of mapping information for how data is to be mapped from target tables of the operational databases to target tables of the data marts, said data marts being analogous to the claimed external systems, col. 3, lines 47-52; see also col. 4, lines 2-7; see also disclosure of the use of transaction ids and log sequence numbers in preserving the transaction order when changes are propagated to the data mart, analogous to the claimed use of serialization groups, col. 5, lines 30-33; see also col. 6, lines 36-42; see also col. 9, lines 35-54).

17.   Regarding claim 14, **Mukhopadhyay et al.** additionally teaches a method wherein the change retrieval engine is further operable to access the distribution model to determine destination information for one or more external systems to which the data in the serialization groups is to be communicated, and store the destination information for the one or more external systems with the serialization groups in the data log (see disclosure that the repository keeps track of mapping information for how data is to be mapped from target tables of the operational databases to target tables of the data marts, said data marts being analogous to the claimed external systems, col. 3, lines

47-52; see also col. 4, lines 2-7; see also disclosure of the use of transaction ids and log sequence

numbers in preserving the transaction order when changes are propagated to the data mart,

analogous to the claimed use of serialization groups, col. 5, lines 30-33; see also col. 6, lines 36-42;

see also col. 9, lines 35-54; see also the disclosure that the mapping_id and target_id, analogous to

the claimed destination information, is stored with the serialization information in the data log, col.

9, lines 35-54).

18.   Regarding claim 15, **Mukhopadhyay et al.** additionally teaches a method wherein the

change transfer engine is further operable to communicate the serialization groups to the external

system identified by the destination information, the data in the serialization group communicated to

the associated external system in the order that the data in the database was changed (see disclosure

that the repository keeps track of mapping information for how data is to be mapped from target

tables of the operational databases to target tables of the data marts, said data marts being analogous

to the claimed external systems, col. 3, lines 47-52; see also col. 4, lines 2-7; see also disclosure of the

use of transaction ids and log sequence numbers in preserving the transaction order when changes

are propagated to the data mart, analogous to the claimed use of serialization groups, col. 5, lines 30-

33; see also col. 6, lines 36-42; see also col. 9, lines 35-54).

19.   Regarding claim 16, **Mukhopadhyay et al.** additionally teaches a method wherein the

change transfer engine is further operable to access the distribution model to determine destination

information for one or more external systems to which the data in the serialization groups is to be

communicated, and communicate to the associated external system in the order that the data in the

database was changed (see disclosure that the repository keeps track of mapping information for

how data is to be mapped from target tables of the operational databases to target tables of the data

marts, said data marts being analogous to the claimed external systems, col. 3, lines 47-52; see also

col. 4, lines 2-7; see also disclosure of the use of transaction ids and log sequence numbers in

preserving the transaction order when changes are propagated to the data mart, analogous to the

claimed use of serialization groups, col. 5, lines 30-33; see also col. 6, lines 36-42; see also col. 9, lines

35-54).

Claim Rejections - 35 USC § 103

20.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section
> 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the
> subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary
> skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

21.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966),

that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a)

are summarized as follows:

    1.   Determining the scope and contents of the prior art.
    2.   Ascertaining the differences between the prior art and the claims at issue.
    3.   Resolving the level of ordinary skill in the pertinent art.
    4.   Considering objective evidence present in the application indicating obviousness or
            nonobviousness.

22.   Claims 4, 21 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Mukhopadhyay et al. (U.S. Patent 6,032,158) as applied to claims 1-3, 7-9, 13-16, 18-20, 24-26, 30,

32-34, 36-38, 41 and 43 above, and further in view of **Gerard et al.** (U.S. Patent 6,192,368).

23.   Regarding claims 4, 21 and 35, **Mukhopadhyay et al.** teaches a system, method and

software substantially as claimed.

        Mukhopadhyay et al. does not explicitly teach a system, method and software wherein the

data management system sends messages to indicate when data has been changed.

        Gerard et al., however teaches a system wherein system, method and software wherein the

data management system sends messages to indicate when data has been changed (see col. 6, line 66

through col. 7, line 5).

        It would have been obvious to one of ordinary skill in the art at the time of the invention to

combine the references, since they are both in the same field of endeavor, that is, the replication of

data changes (see **Mukhopadhyay et al.**, Abstract; see also **Gerard et al.**, Abstract).

        Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to notify interested processes when data of interest has changed, since this would save the

process the need to monitor a log or file by periodically checking for the existence of new data, but

instead can wait for the receipt of a notification on the occasion when data has been changed, thus

providing the advantage of saving processing time.

24.   Claims 6, 10, 11, 23, 27, 28, 39 and 40 are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Mukhopadhyay et al.** (U.S. Patent 6,032,158) as applied to claims 1-3, 7-9, 13-

16, 18-20, 24-26, 30, 32-34, 36-38, 41 and 43 above, and further in view of **Zamanian et al.** (U.S.

Patent 6,339,775).

25.   . Regarding claims 6 and 23, **Mukhopadhyay et al.** teaches a system and method

substantially as claimed.

         Mukhopadhyay et al. does not explicitly teach a system and method wherein the business

objects are identified in the data model by a business object name.

         Zamanian et al., however teaches a system and method wherein the business objects are

identified in the data model by a business object name (see col. 2, lines 65-67; see also col. 6, lines

55-58; see also the example wherein the business object is identified by object name tg_profits, at

col. 8, lines 1-17 and in Figure 6; see also col. 14, lines 9-19 and Figure 4).

         It would have been obvious to one of ordinary skill in the art at the time of the invention to

combine the references, since the two are in the same field of endeavor, that is, a system for

propagating data changes, as well as incorporating data transformations between the data source(s)

and the data target(s) (see **Mukhopadhyay et al.**, Abstract; see also **Zamanian et al.**, Abstract).

         Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to identify business objects by the business object name, since in the object oriented

programming environment, the object name would be necessary for accessing the specific object in the database.

26.   Regarding claims 10, 27 and 39, **Mukhopadhyay et al.** teaches a system, method and software substantially as claimed.

Mukhopadhyay et al. does not explicitly teach a system, method and software wherein the change retrieval engine is further operable to apply field reductions to the tables identified according to the data model, the field reductions indicating one or more fields of the tables containing desired data, and requesting from the data management system data from the fields indicated as containing desired data.

Zamanian et al., however, teaches a system, method and software wherein the change retrieval engine is further operable to apply field reductions to the tables identified according to the data model, the field reductions indicating one or more fields of the tables containing desired data, and requesting from the data management system data from the fields indicated as containing desired data (see description of the aggregator transformation, col. 10, lines 1-36, and particularly the designation of specific fields as either INOUT, IN or OUT, col. 10, lines 27-32; see also the specific example of the ag_prodprof aggregator 603 in Figure 6, and described at col. 6, line 64 through col. 7, line 4).

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow field reductions, since the external system might not require all data available in a given source

table (see **Zamanian et al.**, col. 1, lines 33-51), and often the source system and the target system has conflicting formats, structures or configurations due to hardware, software or vendor differences (see **Zamanian et al.**, col. 17, lines 4-19), thus necessitating field reduction to remove those data fields that are unnecessary or incompatible with the target system.

27.   Regarding claims 11, 28 and 40, **Mukhopadhyay et al.** teaches a system, method and software substantially as claimed.

Mukhopadhyay et al. does not explicitly teach a system, method and software wherein the change retrieval engine is further operable to apply field filters to the tables identified according to the data model, the field filters indicating the desired data in the tables, and requesting from the data management system data the desired data.

Zamanian et al., however, teaches a system, method and software wherein the change retrieval engine is further operable to apply field filters to the tables identified according to the data model, the field filters indicating the desired data in the tables, and requesting from the data management system data the desired data (see description of the Filter Transformation, col. 10, line 65 through col. 11, line 21).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement field filters, since this would allow the system to filter the source data to remove extraneous or erroneous records before loading the data into the target system (see col. 1, lines 37-40), thus improving data integrity.

28.   Claims 17, 31 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Mukhopadhyay et al. (U.S. Patent 6,032,158) as applied to claims 1-3, 7-9, 13-16, 18-20, 24-26, 30,

32-34, 36-38, 41 and 43 above, and further in view of **Chang et al.** (U.S. Patent 6,308,178).

29.   Regarding claims 17, 31 and 42, **Mukhopadhyay et al.** teaches a system, method and

software for retrieving data substantially as claimed.

        Mukhopadhyay et al. does not explicitly teach a system, method and software for

retrieving data wherein an error log is created if the data is not communicated to the external system,

and data associated with the error is communicated to the external system before communicating

additional data.

        Chang et al., however, teaches a system, method and software for retrieving data wherein

an error log is created if the data is not communicated to the external system, and data associated

with the error is communicated to the external system before communicating additional data (see

discussion of the validator, col. 9, lines 26-40).

        It would have been obvious to one of ordinary skill in the art at the time of the invention to

communicate errors in transmission to the external system, since this would allow the external

system to take some remedial action to resynchronize the data between the two systems, and

furthermore because in the absence of such a message the external system would be out of sync with

the server, and would have the potential to present erroneous data to a user.

Response to Arguments

30.   Applicant's arguments, see Remarks, pages 2-5, filed 28 April 2003, with respect to the rejection(s)of claim(s) 1, 18, 32, 33 and 43 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly discovered prior art.

Conclusion

31.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Zamanian et al. (U.S. Patent 6,014,670) teaches a transformation description language for specifying how data is to be manipulated in a data warehousing application through the use of transformation objects which define the mapping between the data of source objects and the data of target objects.

Squire ("Data Extractions and Transformation for the Data Warehouse") teaches the use of a data warehouse architecture in a decision support system.

White[1] ("Data Warehousing: Cleaning and Transforming Data") teaches a data transformation management system to be used in a data cleanup and transformation project.

White[2] ("Managing Data Quality and Transformation in a Corporate Information System") teaches the latest techniques for building a corporate information system, focusing specifically on how to transform data into business information.

White[3] ("Managing Data Transformation") teaches the need for a tool to capture, clean, transform and integrate data while at the same time handle the volume and complexity of the disparate data sources and targets involved in a business information system.

Koch et al. ("The ABCs of ERP") teaches basic information about enterprise resource planning.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke S. Wassum whose telephone number is 703-305-5706. The examiner can normally be reached on Monday-Friday 8:30-5:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 703-305-9790. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

In addition, INFORMAL or DRAFT communications may be faxed directly to the examiner at 703-746-5658.

Customer Service for Tech Center 2100 can be reached during regular business hours at (703) 306-5631, or fax (703) 746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Luke S. Wassum
Art Unit 2177

lsw
July 31, 2003